when control of the skin rejection process has been achieved will there be wide application of skin pedicle transplantation.

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REFERENCES

American Replantation Mission to China: Replantation surgery in China. Plast Reconstr Surg 52:476, Nov 1973

Harii K, Ohmori K, Ohmori S: Successful clinical transfer of ten free flaps by microvascular anastomoses. Plast Reconstr Surg 53:259, Mar 1974

Kaplan EN, Buncke H, Murray D: Distant transfer of cutaneous island flaps in humans by microvascular anastomoses. Plast Reconstr Surg 52:301-305, Sep 1973

Abdominal Ultrasound in Assessing the Surgical Abdomen

BECAUSE IT CAN visually depict cross-sectional and saggital anatomy and can delineate abnormal structures and distinguish whether they are cystic or solid, the use of ultrasound offers unique promise in assessing the abdomen before surgical operation.

Diagnostic ultrasound uses repetitive pulses of sound with frequencies far above the range of human hearing. At these frequencies the sound waves can be concentrated into a narrow, well-directed column, capable of penetrating the soft tissues of the body. As these waves traverse the abdomen they are partially reflected at tissue interfaces because of relative differences in acoustical impedance. Returning echoes are accumulated on a storage oscilloscope, and by this means an accurate two-dimensional anatomic section is built up. By varying the receiver sensitivity, cystic structures can be distinguished from those that are solid.

The applicability of diagnostic ultrasound in assessing the surgical abdomen is extensive. What follows is a brief and by no means all-inclusive review.

In evaluating patients with abdominal trauma, ultrasound can successfully delineate hematomas, whether they are perihepatic, perisplenic, perinephric or retroperitoneal. It can also detect the presence of blood (or other fluids) within the peritoneal cavity.

When conventional radiographic methods have failed to show a cause of jaundice, ultrasonography can demonstrate the size of the gallbladder, its response to fatty meals and, inferentially, whether or not there is obstruction. The technique also permits, with reasonable accuracy, the visualization of gallstones. Obstructive causes other than stones (for example, pancreatic carcinoma) can also be detected.

Because cystic structures (for example, pancreatic pseudocysts, renal and ovarian cysts) may be causally related to abdominal pain, the ability of ultrasound to accurately diagnose and localize these cysts is of obvious clinical benefit.

The verification or exclusion of a suspected intra-abdominal abscess is a common surgical problem. Ultrasonography can help in resolving this problem by showing abscesses, especially those of the para-appendiceal, pelvic, subphrenic and intrahepatic variety. When a technically adequate ultrasonogram fails to show an intra-abdominal abscess, such a condition may be excluded with a high degree of certainty.

Last, ultrasound is highly accurate in the detection and measurement of abdominal aortic aneurysms.

Ultrasonography is a painless, non-invasive technique, without known deleterious side effects. It represents a significant addition to the armamentarium that can be brought to bear upon the diagnosis of the abdomen before surgery.

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REFERENCES

Holm HH, Kristensen JK, Rasmussen SN, et al: Indications for ultrasonic scanning in abdominal diagnostics. J Clin Ultrasound 2:5-15, Mar 1974

Freimanis AK: Echographic exploration of abdominal structures. Critical Rev Radiol Sci 1:207-236, May 1970

Treatment of the Subclavian Steal Syndrome by Carotid-Subclavian Bypass

STENOSIS OR OCCLUSION of the proximal subclavian artery often results in retrograde flow through the ipsilateral vertebral artery. While most patients with this abnormality are asymptomatic, in some the subclavian steal syndrome develops; that is, symptoms of cerebrovascular insufficiency with or without claudication in the affected arm. This syndrome has increasingly been treated by carotid-subclavian bypass grafting to avoid the risks of thoractomy, particularly in poor risk patients. However, experimental and clinical studies indicate that, in the presence of occlusive disease of the carotid vessels, carotid-subclavian bypass may produce carotid steal with failure of the patient